

**REMARKS**

This Amendment and Response to Non-Final Office Action is being submitted in response to the non-final Office Action mailed September 14, 2005. Claims 1-20 are pending in the Application. The Drawings stand objected to because of mislabeled items in Figure 5, which are inconsistent with the Specification. The Specification stands objected to because the numerals referring to the ingress device and the egress device in Figure 5 are inconsistent with the Drawings. Claims 11-20 stand rejected to under 35 U.S.C. 112 as being indefinite. Claims 1, 3, 4, 6, and 11-13 stand rejected under 35 U.S.C. 102(e) as being anticipated by Roberts et al. (U.S. Patent No. 6,816,487). Finally, Claims 2, 5, 7-10 and 14-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (U.S. Patent No. 6,816,487).

In response to the above rejections and objections, Figure 5 and Claims 1, 6, and 11 have been amended to further clarify the subject matter which Applicant regards as the invention. Additionally, Figures 1A, 1B, and 6 are also submitted as replacement sheets to correct minor informalities not previously noted by the Examiner. These amendments are fully supported in the Specification, Drawings, and Claims of the Application and no new matter has been added. Based upon the amendments, reconsideration of the Application is respectfully requested in view of the following remarks.

**Drawings:**

The Drawings stand objected to because of mislabeled items in Figure 5, which are inconsistent with the Specification.

In response to this objection, Figure 5 has been amended to add missing labels; such that the "ACTIVE" and STANDY" boxes now have been labeled. Additionally, both the ingress devices and the egress devices were labeled 512 in the original. The

egress device has been amended to 514 to correctly refer to that component and to be consistent with the Specification.

Additionally, Figures 1A, 1B, and 6 are also being submitted as replacement sheets to correct minor informalities not previously noted by the Examiner.

**Specification:**

The Specification stands objected to because, in pages 22-23, the numerals referring to the ingress device and the egress device in Figure 5 are inconsistent with the drawing.

In response to this objection, Applicant points out that with amended Figure 5, the Drawings and Specification are now consistent. The ingress device is 512 and the egress device is 514. This is consistent now in both the Drawings and the Specification.

**Rejection of Claims 11-20 Under 35 U.S.C. 112:**

Claims 11-20 stand rejected under 35 U.S.C. 112 as being indefinite.

In response to this rejection, Claim 11 has been amended such that “the first egress device” is now “a first egress device.” As such, the claim no longer lacks antecedent basis. Furthermore, Claims 12-20, which are dependent claims dependent from Claim 11, reference a claim that no longer lacks antecedent basis and thus should also be considered proper.

**Rejection of Claims 1, 3, 4, 6, and 11-13 Under 35 U.S.C. 102(e) – Roberts et al.:**

Claims 1, 3, 4, 6, and 11-13 stand rejected under 35 U.S.C. 102(e) as being anticipated by Roberts et al. (U.S. Patent No. 6,816,487). Specifically, in regard to Claim 11, Examiner states that Roberts et al. disclose a switch element comprising a first ingress device providing a first plurality of ingress time slots, the first ingress device connecting to a set of ingress lines, a center stage device including a plurality of ingress edges and a plurality of egress edges, a first egress device providing a first plurality of egress time slots, and a processor configured to assign each time slot in the first plurality of ingress time slots to an ingress edge in one of the center stage devices, to an egress edge in the one of the center stage devices, and to a corresponding time slot in the first plurality of egress time slots, so that a communication from one of the set of ingress lines is sent to one of the set of egress lines over one of the time slots in the first plurality of ingress time slots, one of the ingress edges and one of the egress edges on one of the center stage devices, and one of the egress time slot. Examiner further states that Claims 12 and 13, which depend from Claim 11, and the methods of Claims 1, 3, 4, and 6, which correspond to Claim 11, are also disclosed in Roberts et al.

In response to this rejection, claim 11 has been amended to recite:

A switch element comprising:

- a first ingress device, ***wherein the first ingress device comprises a logical model of an input sorter and a plurality of input routers***, providing a first plurality of ingress time slots, the first ingress device connecting to a set of ingress lines;

- a center stage device including a plurality of ingress edges and a plurality of egress edges;

- a first egress device connecting to a set of egress lines, ***wherein the first egress device comprises a logical model of an output sorter and a plurality of output routers***, providing a first plurality of egress time slots; and

- a processor, ***providing a five-stage logical model that represents the components of the switch element in five stages comprising the input sorter, the plurality of input routers, the center stage device, the plurality of output routers, and the output sorter***, configured to assign each time slot in the first plurality of

ingress time slots to an ingress edge in one of the center stage devices, to an egress edge in the one of the center stage devices, and to a corresponding time slot in the first plurality of egress time slots, so that a communication from one of the set of ingress lines is sent to one of the set of egress lines over one of the time slots in the first plurality of ingress time slots, one of the ingress edges and one of the egress edges on one of the center stage devices, and one of the egress time slot.

This amendment is fully supported throughout the Specification, beginning in the second full paragraph on page 9.

Claims 12 and 13 are dependent claims, dependent from Claim 11. Based on the same unique and novel features of the present invention as described above, namely that Claim 11 has unique and patentable novel features in it, precisely that it provides a five-stage logical model that represents the components of the switch element in five stages comprising an input sorter, an input router, a center stage device, an output router, and an output sorter, it is respectfully asserted that these dependent claims are now in condition for allowance.

Claim 1 and Claim 6, both independent method claims which correspond to the switch element in Claim 11, have been amended to reflect the changes made to Claim 11.

Claims 3 and 4 are dependent claims, dependent from Claim 1. Based on the same unique and novel features of the present invention as above, namely that Claim 1 has unique and patentable novel features in it, precisely that it provides a five-stage logical model that represents the components of the switch element in five stages comprising an input sorter, an input router, a center stage device, an output router, and an output sorter, it is respectfully asserted that these dependent claims are now in condition for allowance.

Roberts et al. disclose a switch element which Examiner asserts is equivalent to the switch element of the present invention. For example, at col. 4 lines 53-56, a network with ingress and egress stages is disclosed.

Applicant submits, however, that what Roberts et al. disclose at col. 4 lines 53-56, is a Clos network, a network topology already known in the art. Applicant further submits that although Roberts et al. disclose a controller unit 10 at col. 4 lines 58 – 62, to provide a mapping means, Roberts et al. do not disclose a five-stage logical model that provides that components of the switch element may be represented in five stages including an input sorter, an input router, a center stage device, an output router, and an output sorter.

The differences between the invention of Roberts et al. and the invention of the present Application is now made explicit in amended Claims 1, 6, and 11. Therefore, Applicant submits that the rejection of Claims 1, 3, 4, 6, and 11-13 under 35 U.S.C. 102(e) as being anticipated by Roberts et al. has now been overcome and respectfully requests that this rejection be withdrawn.

**Rejection of Claims 2, 5, 7-10, and 14-20 Under 35 U.S.C. 103(a) - Roberts et al.:**

Claims 2, 5, 7-10 and 14-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. (U.S. Patent No. 6,816,487). Specifically, Examiner states that regarding claims 2, 5, and 20, Roberts et al. fail to specifically teach that the processor clears all existing traffic in order to connect the set of ingress lines to the set of egress lines. However, Examiner states that he takes Official Notice that such a clearing step is a well known step in an operating switch. In addition, regarding Claims 7-10 and 14-19, Examiner states that Roberts et al. fail to specially teach the size of each ingress router and egress router being equal to the number of center stage devices. However, Examiner states that Roberts et al. show that the connections from an ingress device to

each center stage device and the connections from each center stage device to an egress device. From this showing, Examiner states that it is clear that each ingress device and each egress device has the capacity to deal with the number of connections equaling the number of center stage devices and that it would have been obvious for one of the ordinary skill in the art at the time of the invention to include a router having the size equal to the number of center stage devices.

The above arguments with respect to Roberts et al. apply with equal force here.

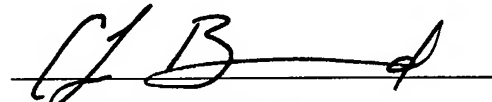
Therefore, Applicant submits that the rejection of Claims 2, 5, 7-10 and 14-20 under 35 U.S.C. 103(a) as being unpatentable over Roberts et al. has now been overcome and respectfully requests that this rejection be withdrawn.

**CONCLUSION**

Applicant would like to thank Examiner for the attention and consideration accorded the present Application. Should Examiner determine that any further action is necessary to place the Application in condition for allowance, Examiner is encouraged to contact undersigned Counsel at the telephone number, facsimile number, address, or email address provided below. It is not believed that any fees for additional claims, extensions of time, or the like are required beyond those that may otherwise be indicated in the documents accompanying this paper. However, if such additional fees are required, Examiner is encouraged to notify undersigned Counsel at Examiner's earliest convenience.

Respectfully submitted,

Date: November 15, 2005

A handwritten signature in black ink, appearing to read 'C L Bernard', is written over a horizontal line.

Christopher L. Bernard  
Registration No.: 48,234  
Bradley D. Crose  
Registration No.: 56,766  
Attorneys for Applicants

**DOUGHERTY CLEMENTS**  
1901 Roxborough Road, Suite 300  
Charlotte, North Carolina 28211 USA  
Telephone: 704.366.6642  
Facsimile: 704.366.9744  
cbernard@worldpatents.com

**AMENDMENTS TO THE DRAWINGS**

Please replace Figures 1A, 1B, 5, and 6 with the replacement sheets accompanying this Amendment and Response to Non-Final Office Action, without prejudice or disclaimer to continued examination on the merits.